



South Carolina

STATUS

OF INJURY

DATA REPORT

2007

Data Sources:

- Death data: Office of Public Health Statistics and Information System (PHISIS) of South Carolina Department of Health and Environmental Control (DHEC)
- Non-Fatal Traumatic Brain Injury Data: Include hospital admissions and Emergency Department (ED) visits provided by Office of Research and Statistics (ORS) of SC Budget and control Board
 - Analysis done by the DHEC Division of Injury and Violence Prevention
- Non-Fatal All Injury Data: Includes Injury Hospital Admissions (HA) and Emergency Department (ED) visits provided by Office of Research and Statistics (ORS) of SC Budget and control Board. It is aggregate data on a website specifically used for the DHEC Division of Injury & Violence Prevention.
 - Report Prepared by the DHEC Division of Injury and Violence Prevention

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Disclaimer:

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2007 Injury Deaths

(All rates in Section I of this report are based on 100,000 population)

- In 2007, there were 3,230 deaths in South Carolina due to injury. The crude death rate was 73.3 per 100,000 population.
- Motor vehicle crashes (MVC) were the leading cause of injury deaths (24.6%) followed by suicide and unintentional poisoning (16.2, and 14.7% respectively) (Table 1.1). Unintentional injuries accounted for 70.6% of causes of injury deaths.
- People in age group 65 years and older had the highest injury death rate followed by age group 35-49 (113.2, 88.5/100,000 respectively) (Figure 1.1). Table 1.2 shows that MVC are the primary cause of injury death from age 15 to 34. Unintentional poisoning was the leading cause of injury death for adults 35-49 years old. Suicide was one of the top 3 causes of injury deaths for people ages 15 to 64.
- Injury death occurred more among white males followed by black/other males (106.0 and 99.3/100,000 respectively) (Figure 1.2). White males die twice as much as white females from injury, black /other males die three and half times as much as black/other females. MVC were the primary cause of death for all race-sex groups except black/other males, where homicide was the leading cause of injury death (Table 1.3).
- Around 80% of intentional injury related deaths among black/other (males and females) were due to homicide while among whites (males and females) around 76% of these causes were due to suicide (Figure 1.3). Firearms were used in 67% of homicide-related deaths as the weapon of assault, and were used in 58% of the suicide cases (Table 1.4).
- MVC-related deaths were the highest among 15-24 years old white males followed by 25-34 years old black/other males (52.5 and 44.8/100,000 respectively) (Figure 1.4). MVC-related deaths among white males were twice as that for white females, and among black/other males it was three times as that for black/other females.

Table 1.1: Causes of Injury Deaths, SC 2007

Cause of Injury	Number	Percent	Rate
I. Unintentional	2,280	70.6	51.7
MVC	793	24.6	18.0
Poisoning	475	14.7	10.8
Fall	224	6.9	5.1
Suffocation	151	4.7	3.4
Unspecified	150	4.6	3.4
Pedestrians	120	3.7	2.7
Motor Cyclists	91	2.8	2.1
Fire/Flame	73	2.3	1.7
Drowning	65	2.0	1.5
Natural/Environmental	33	1.0	0.7
Other Transport	31	1.0	0.7
Other Causes	22	0.7	0.5
Pedal Cyclists	19	0.6	0.4
Firearm	15	0.5	0.3
Machinery	9	0.3	0.2
Struck by/caught in	8	0.3	0.2
Cut/Pierce	1	0.0	0.0
II. All Intentional	900	27.9	20.4
Suicide	523	16.2	11.9
Homicide	371	11.5	8.4
Legal Intervention	6	0.2	0.1
III. Undetermined Intent	50	1.5	1.1
Total	3,230	100.0	73.3

Percent of the total injury Deaths

Rate per 100,000 population

Figure 1.1: Injury Deaths by Age Groups, SC 2007

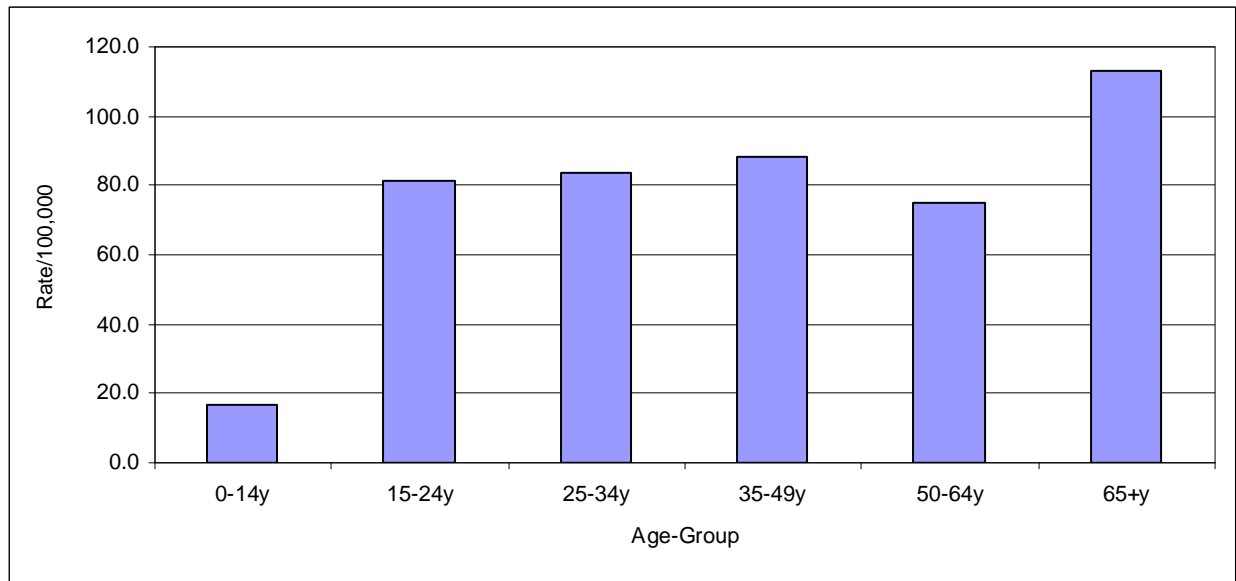


Table 1.2: Top 3 Causes of Injury Deaths by Age Groups, SC 2007

Age Group	Cause of Injury	No.	Rate	Age Group	Cause of Injury	No.	Rate
0-14	Suffocation	42	4.8	35-49	Poisoning	195	20.8
	MVC	28	3.2		MVC	179	19.1
	Homicide	22	2.5		Suicide	169	18.0
15-24	MVC	214	34.5	50-64	Suicide	148	17.7
	Homicide	108	17.4		Poisoning	137	16.4
	Suicide	52	8.4		MVC	111	13.3
24-34	MVC	145	25.3	65+	Fall	162	28.3
	Homicide	88	15.3		MVC	116	20.2
	Suicide	84	14.6		Suffocation	71	12.4

Rate per 100,000 population

Figure 1.2: Injury Deaths by Race & Sex, SC 2007

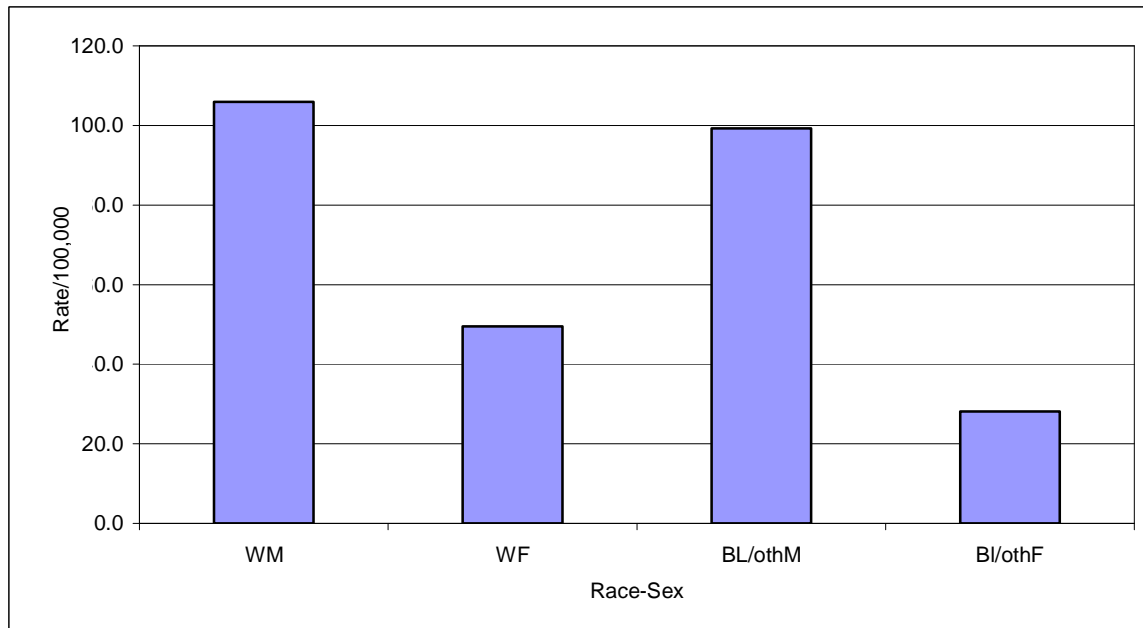


Table 1.3: Top 5 Causes of Injury Deaths by Race & Sex, SC 2007

Race & Sex	Cause of Injury	No.	Rate	Race & Sex	Cause of Injury	No.	Rate
White Males	MVC	388	25.8	Black/ other Males	Homicide	184	28.7
	Suicide	349	23.2		MVC	169	26.3
	Poisoning	241	16.0		Poisoning	48	7.5
	Fall	108	7.2		Suicide	39	6.1
	Homicide	101	6.7		Pedestrians	33	5.1
White Females	MVC	171	11.1	Black/ other Females	MVC	56	7.8
	Poisoning	164	10.6		Homicide	40	5.6
	Suicide	118	7.7		Suffocation	26	3.6
	Fall	85	5.5		Poisoning	20	2.8
	Homicide	41	2.7		Pedestrians	14	1.9

Rate per 100,000 population

Figure 1.3: Deaths due to Intentional Injuries by Race and Sex, SC 2007

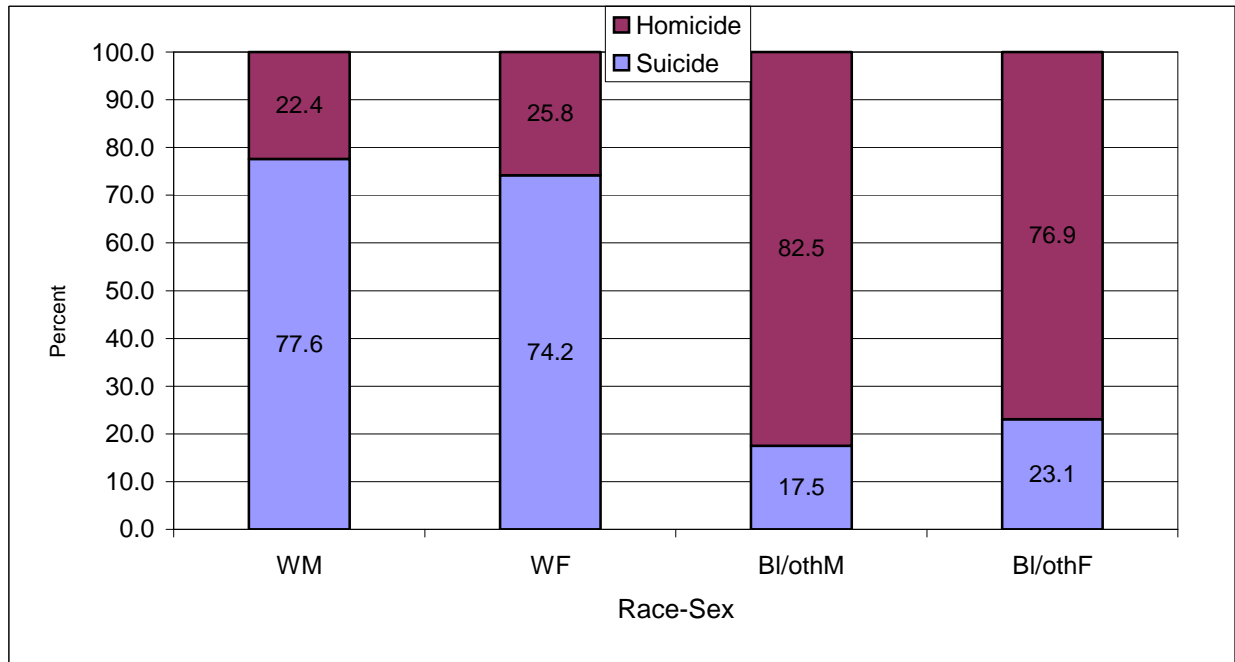


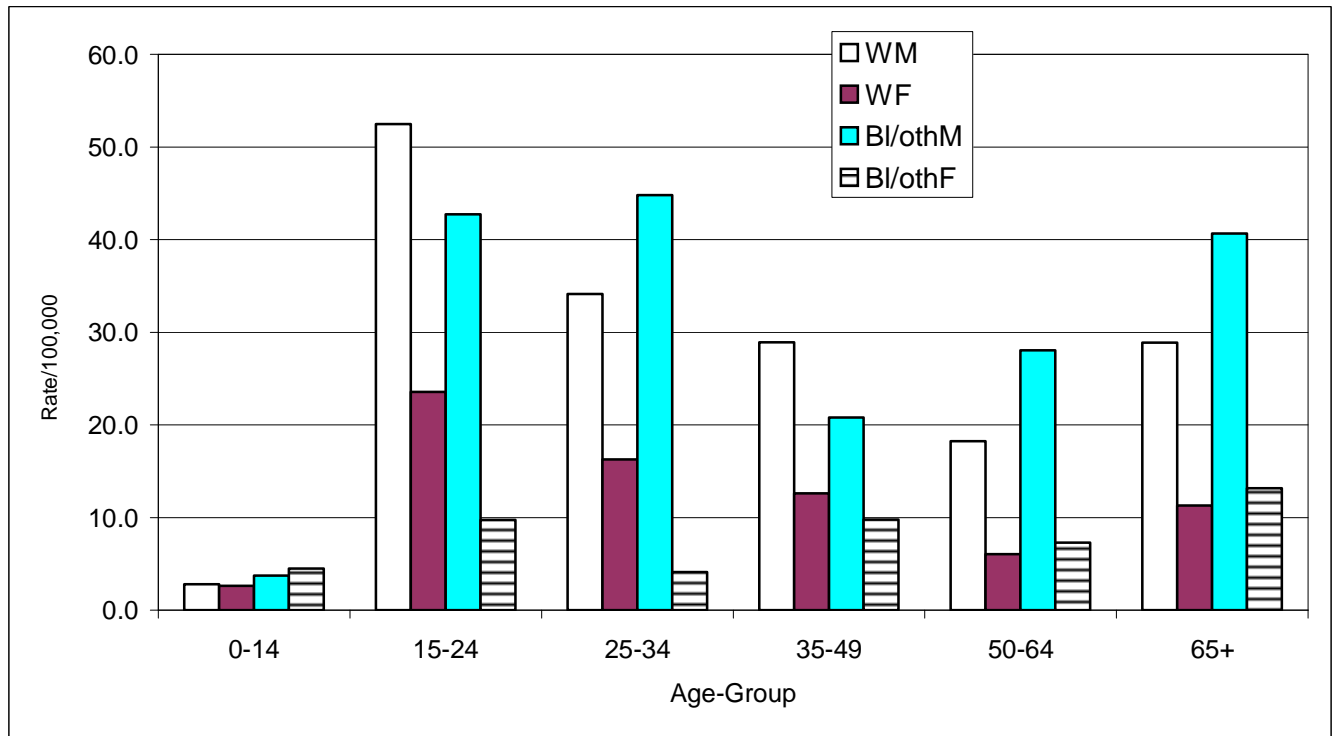
Table 1.4: Top Causes of Deaths due to Intentional Injuries, SC 2007

Suicide	No.	%	Homicide	No.	%
Firearm	305	58.3	Firearm	249	67.1
Suffocation	99	18.9	Cut/Pierce	48	12.9
Poisoning	96	18.4	Other	27	7.3
Other	6	1.2	Suffocation	13	3.5
Cut/Pierce	5	1.0	Struck by	5	1.4

% = Percent of all causes of suicide

% = Percent of all causes of homicide

Figure 1.4: Deaths Due to MVC by Race, Sex and Age Group, SC 2007



2007 Injury Hospital Admissions (HA)

(All rates in Section II of this report are based on 10,000 population)

- In 2007, there were 23,430 Injury Hospital Admissions (HA) due to injury in SC, resulting in a crude rate of 53.2/10,000 population.
- Falls were the leading cause of Injury Hospital Admissions (41.9%) followed by MVC (13.0%), (Table 2.1). Intentional injuries accounted for 12.5% of causes of injury. Sports and recreation contributed 3.7% to injury-related hospitalizations.
- People 65 years and older had highest Injury Hospital Admission rate and it is three times that of the next highest rate (age group 50-64) (152.5 compare to 49.4/10,000 respectively) (Figure 2.1). Falls, were the leading cause of injury for children 0-14 and people 35 years and older, while MVC were the primary cause for people 15-34 years old (Table 2.2).
- White females had the most injury-related HA followed by black/other males (62.7 & 59.5/10,000) (Figure 2.2). Falls were the leading cause of injury among all race-sex groups, and it was most frequent among white females (36.8/10,000) (Table 2.3).
- MVC-related Injury Hospital Admissions rates were the highest among young people 15-24 years old for all race-sex groups except black/other females where the peak of their MVC injuries were in the age group 25-34 (Figure 2.3).
- The Injury Hospital Admission rate due to falls was the highest among white females (36.8/10,000), which was 3 times as that among black/other females and twice as that among white males (Table 2.4). 83.7% of the falls resulted in fractures, 5.9% had intracranial injury excluding those with skull fracture, and 2.1% had contusions with intact skin (Table 2.5).

Table 2.1: Causes of Injury Hospital Admissions, SC 2007

Cause of Injury	Number	Percent	Rate
I. Unintentional	19,906	84.4	45.2
Falls	9,822	41.9	22.3
MVC	3,049	13.0	6.9
Poisoning	1,260	5.4	2.9
Natural, Environmental Factors	1,174	5.0	2.7
Sports and Recreation	817	3.7	1.9
Adverse Effects of Therapeutic Drugs	786	3.4	1.8
Motorcyclist	592	2.5	1.3
Struck By/ Caught In	367	1.6	0.8
Overexertion	348	1.5	0.8
Unknown cause	329	1.4	0.7
Pedestrian	277	1.2	0.6
Other Transportation	270	1.2	0.6
Piercing or Cutting	246	1.0	0.6
Foreign Body	186	0.8	0.4
Machinery	167	0.7	0.4
Firearm	121	0.5	0.3
Hot Substance/Object	86	0.4	0.2
Fire and Flame	67	0.3	0.2
Suffocation/Near Suffocation	45	0.2	0.1
Other unintentional Injury	31	0.1	0.1
Pedal Cyclist	12	0.1	0.0
Near Drowning	11	0.0	0.0
II. All Intentional	2,920	12.5	6.6
Attempted Suicide	1,830	7.8	4.2
Assault	1,080	4.6	2.5
Legal Intervention/operation of war	11	0.0	0.0
III. All Undetermined Intention	411	1.8	0.9
Total	23,430	100.0	53.2

Percent of the total Injury Hospital Admission
Rate per 10,000 population

Figure 2.1: Injury Hospital Admission Rates by Age Group, SC 2007

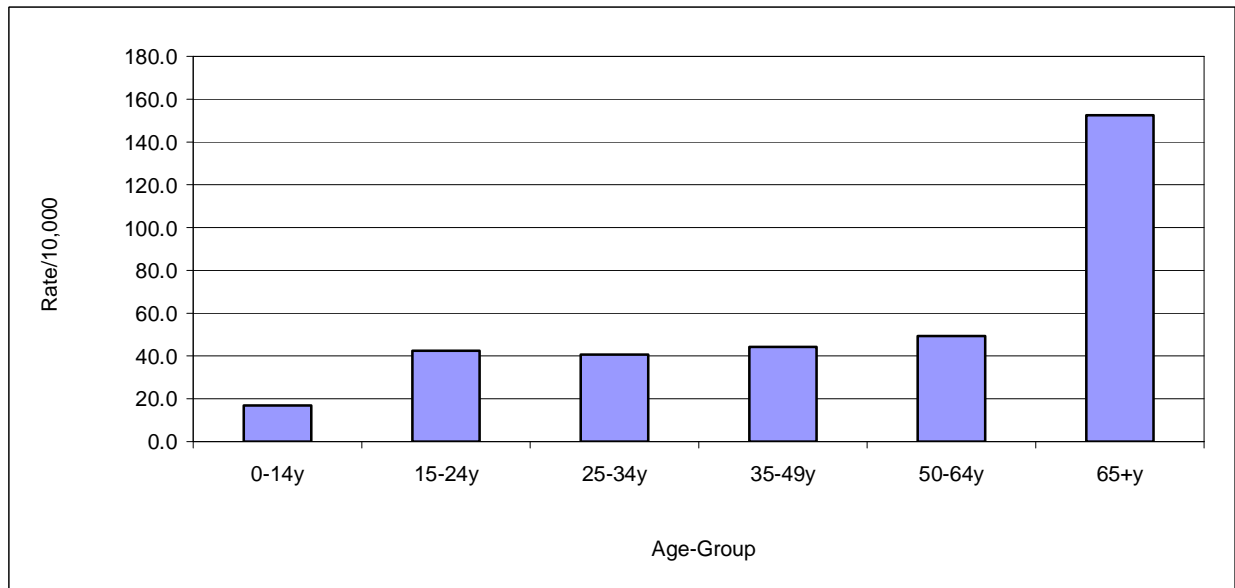


Table 2.2: Top 5 Causes of Injury Hospital Admission by Age Group, SC 2007

Age Group	Cause of Injury	No.	Rate	Age Group	Cause of Injury	No.	Rate
0-14	Falls	301	3.5	35-49	Falls	765	8.2
	Sports & Recreation	262	3.0		Attempted Suicide	727	7.8
	MVC	159	1.8		MVC	689	7.4
	Poisoning	126	1.4		Poisoning	309	3.3
	Natural, Environmental	121	1.4		Assault	281	3.0
15-24	MVC	853	13.8	50-64	Falls	1,566	18.8
	Assault	322	5.2		MVC	454	5.4
	Attempted Suicide	306	4.9		Attempted Suicide	315	3.8
	Falls	224	3.6		Poisoning	314	3.8
	Sports & Recreation	185	3.0		Adverse Effects of Therapeutic Drugs	277	3.3
25-34	MVC	561	9.8	65+	Falls	6,709	117.1
	Attempted Suicide	383	6.7		Natural, Environmental	371	6.5
	Assault	269	4.7		MVC	333	5.8
	Falls	257	4.5		Adverse Effects of Therapeutic Drugs	320	5.6
	Motorcyclist	128	2.2		Poisoning	290	5.1

Rate per 10,000 population

Figure 2.1: Injury Hospital Admission Rates by Race Sex, SC 2007

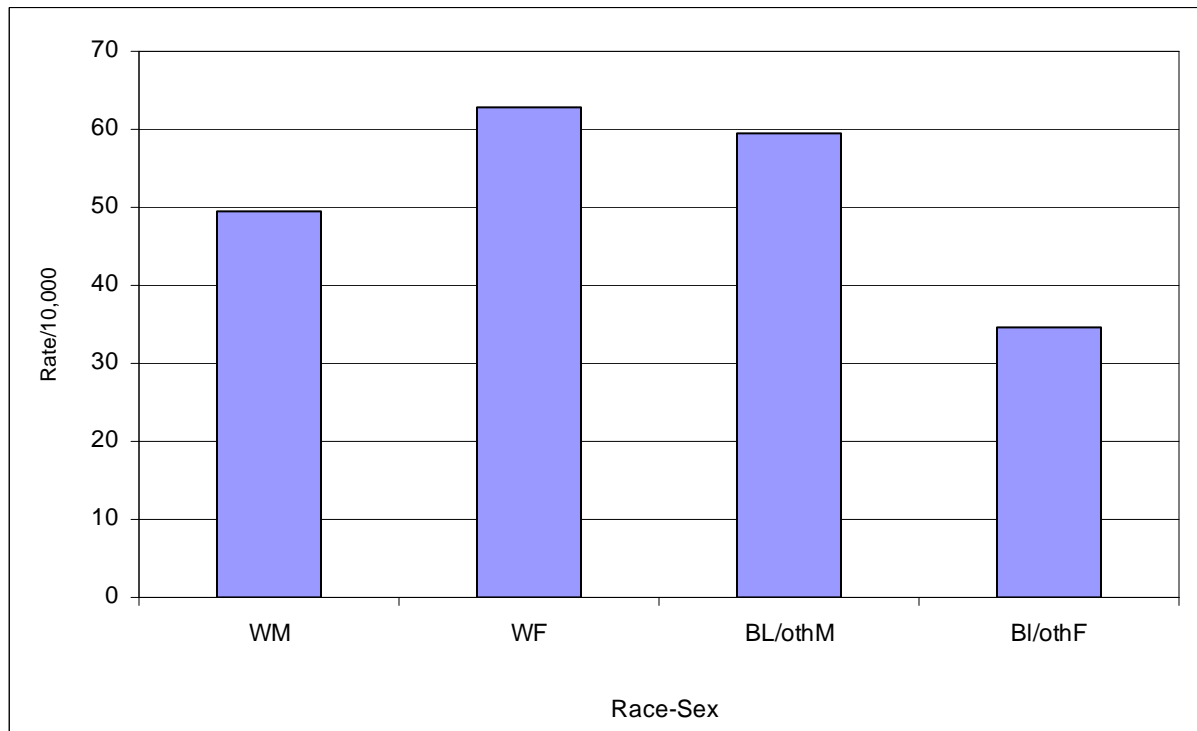


Table 2.3: Top 5 Causes of Injury Hospital Admissions by Race & Sex, SC 2007

Race & Sex	Cause of Injury	No.	Rate	Race & Sex	Cause of Injury	No.	Rate
White Males	Falls	2,507	16.7	Black/ other Males	Falls	744	11.6
	MVC	1031	6.8		MVC	726	11.3
	Attempted Suicide	633	4.2		Assault	579	9.0
	Sports & Recreation	434	2.9		Natural, Environmental	202	3.1
	Poisoning	431	2.9		Poisoning	173	2.7
White Females	Falls	5,670	36.8	Black/ other Females	Falls	899	12.5
	MVC	893	5.8		MVC	399	5.6
	Attempted Suicide	866	5.6		Adverse Effects of Therapeutic Drugs	203	2.8
	Poisoning	480	3.1		Poisoning	176	2.4
	Natural, Environmental	417	2.7		Attempted Suicide	170	2.4

Rate per 10,000 population

Figure 2.3: MVC-Related Injury Hospital Admissions by Race, Sex & Age Group, SC 2007

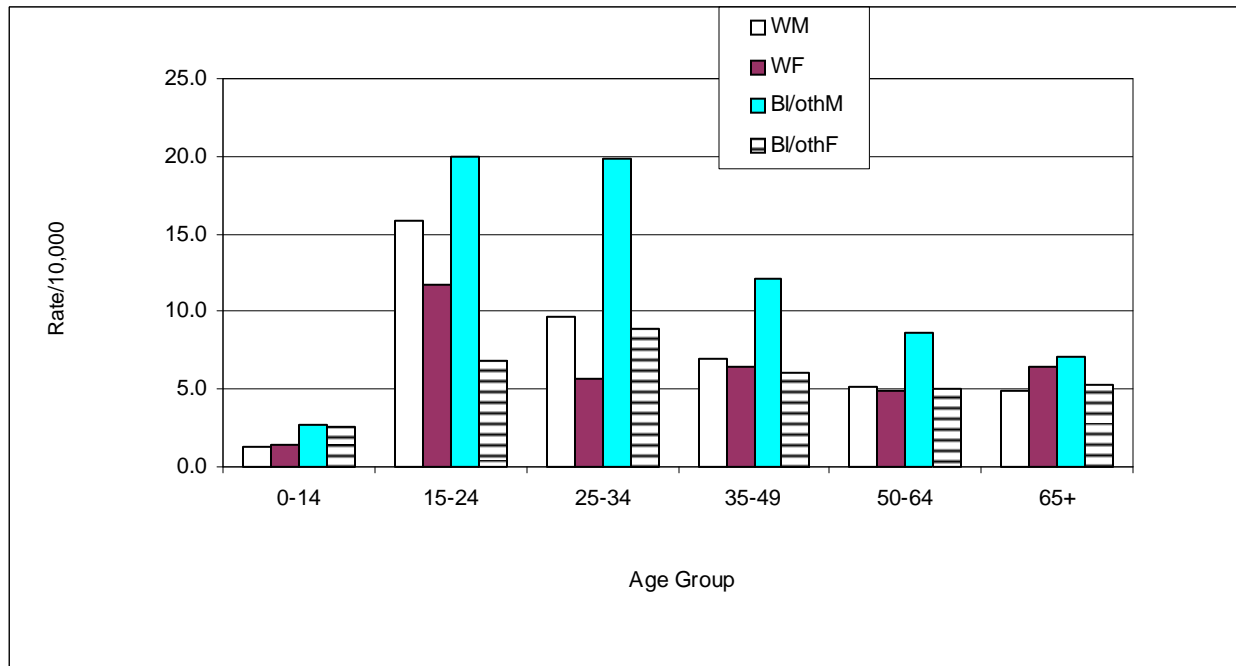


Table 2.4: Falls-Related Injury Hospital Admissions by Race-Sex, SC 2007

Sex-Race	Number	Rate
White M	2,507	16.7
White F	5,670	36.8
Black/other M	744	11.6
Black/other F	899	12.5

Rate per 10,000 population

Table 2.5: Nature of Injuries Due to Falls, SC 2007

Nature of Injuries Resulted from Falls	Percent
Fractures	83.7
Intracranial injury, exclude those with skull fracture	5.9
Other injuries	4.2
Contusions with intact skin surfaces	2.1
Sprains & Strains	1.2
Open wounds	1.0

Percent of all falls

Table 2.6: Source of Payments & Charges, Injury Hospital Admissions, SC 2007

Paying Source	Percent
Medicare	40.9
Insurance	31.0
Self Pay	18.6
Medicaid	9.5
Total Charges to all payers: \$ 872,277,344	

Charges are the amount billed to paying sources and not the amount collected

2007 Injury Emergency Department (ED) Visits

(All rates in Section III of this report are based on 10,000 population)

- **Correction: In last year's report (2006), there was an error in the number of intentional injury ED visits and their rates. The correct numbers are: all intentional 19,498, which is 5.3% of all injury with a crude rate of 45.1/10,000 population**
- In 2007, there were 386,386 Emergency Department (ED) visits due to injury in SC, resulting in a crude rate of 876.6/10,000 population.
- Falls were the leading cause of ED visits (23.3%) followed by Natural, Environmental Factors (15.2%), and MVC (14.0%) (Table 3.1). Intentional injuries accounted for 5.4% of the causes where assault was the main cause; 5.4% of all injuries were due to sports and recreation.
- Young people 15-24 years old had the most injury-related ED visits followed by age group 25-34 (1,231.8 and 1,086.5/10,000 respectively) (Figure 3.1). Falls were the leading cause of injury for all age groups except people ages 15-34 where MVC was the leading cause (Table 3.2).
- Black/other males had the highest ED visits rate followed by black/other females (1,214.5 and 1,000.8/10,000 respectively) (Figure 3.2). Falls were the leading cause of injury among whites (males and females), and MVC were the leading cause among blacks/other (males and females) (Table 3.3).
- The highest MVC-related ED visits were among age group 15-24 and it was the most among black/other females followed by black/other males (424.7 and 333.4/10,000 respectively) (Figure 3.3). The ED visits for MVC injuries decreased with advance in age after 24.
- ED visits rate due to falls was the highest among white females followed by black/other females (242.4 and 197.7/10,000 respectively) (Table 3.4). 29.3% of the falls resulted in contusions with intact skin surfaces, 23.7% had fractures, 19.1% had sprains and strains, and 15.2% had open wounds (Table 3.5).

Table 3.1: Causes of Injury ED Visits, SC 2007

Cause of Injury	Number	Percent	Rate
I. Unintentional	345,066	93.7	798.5
Falls	90,024	23.3	204.2
Natural, Environmental Factors	58,851	15.2	133.5
MVC	54,208	14.0	123.0
Struck By/ Caught In	42,210	10.9	95.8
Overexertion	37,308	9.7	84.6
Piercing or Cutting Object	27,871	7.2	63.2
Sports & Recreation	20,727	5.4	47.0
Foreign Body	19,549	5.1	44.4
Hot Substance/Objects	17,113	4.4	38.8
Adverse Effects of Therapeutic Drugs	3,922	1.0	8.9
Unknown cause	3,810	1.0	8.6
Poisoning	3,506	0.9	8.0
Motorcyclist	2,265	0.6	5.1
Other Transportation	2,079	0.5	4.7
Machinery	1,720	0.4	3.9
Fire and Flame	1,554	0.4	3.5
Pedestrian	1,539	0.4	3.5
Firearm	795	0.2	1.8
Other Causes	617	0.2	1.4
Near Suffocation	267	0.1	0.6
Pedal Cyclist	111	0.0	0.3
Near Drowning	24	0.0	0.1
II. All Intentional	20,729	5.4	47.0
Assault	17,113	4.4	38.8
Attempted Suicide	3,176	0.8	7.2
Legal Intervention, operation of war	440	0.1	1.0
III. All Undetermined Intention	1,247	0.3	2.8
Total	386,386	100.0	876.6

Percent of the total Injury ED visits
Rate per 10,000 population

Figure 3.1: Injury ED visits Rates by Age Group, SC 2007

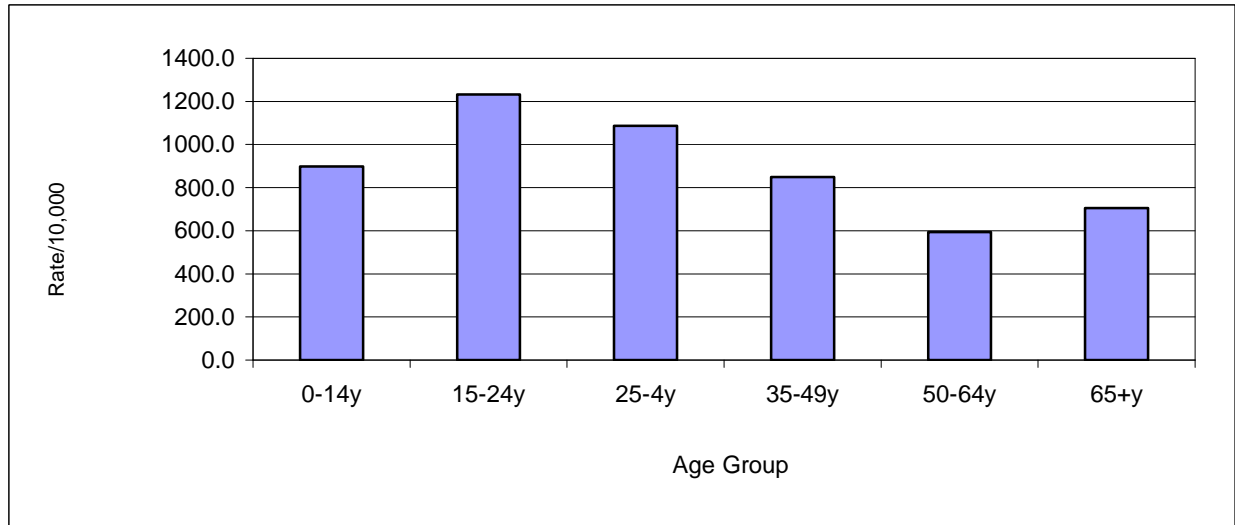


Table 3.2: Top 5 Causes of Injury ED Visits by Age Group, SC 2007

Age Group	Cause of Injury	No.	Rate	Age Group	Cause of Injury	No.	Rate
0-14	Falls	20,443	234.9	35-49	Falls	15,155	161.8
	Struck By/ Caught In	13,000	149.4		Natural, Environmental	13,379	142.8
	Natural, Environmental	10,627	122.1		MVC	12,492	133.4
	Sports & Recreation	9,591	110.2		Overexertion	10,133	108.2
	Piercing/Cutting	5,284	60.7		Struck By/ Caught In	7,762	82.9
15-24	MVC	16,351	263.6	50-64	Falls	13,949	167.3
	Natural, Environmental	9,522	153.5		Natural, Environmental	9,562	114.7
	Falls	9,181	148.0		MVC	6,992	83.8
	Struck By/ Caught In	8,271	133.3		Overexertion	4,633	55.6
	Overexertion	7,984	128.7		Struck By/ Caught In	4,157	49.9
24-34	MVC	11,156	194.6	65+	Falls	22,086	385.4
	Natural, Environmental	9,240	161.1		Natural, Environmental	6,521	113.8
	Falls	9,210	160.6		MVC	2,889	50.4
	Overexertion	8,247	143.8		Struck By/ Caught In	2,302	40.2
	Struck By/ Caught In	6,718	117.2		Piercing/Cutting	1,817	31.7

Rate per 10,000 population

Figure 3.2: Injury ED Visits by Race and Sex, SC 2007

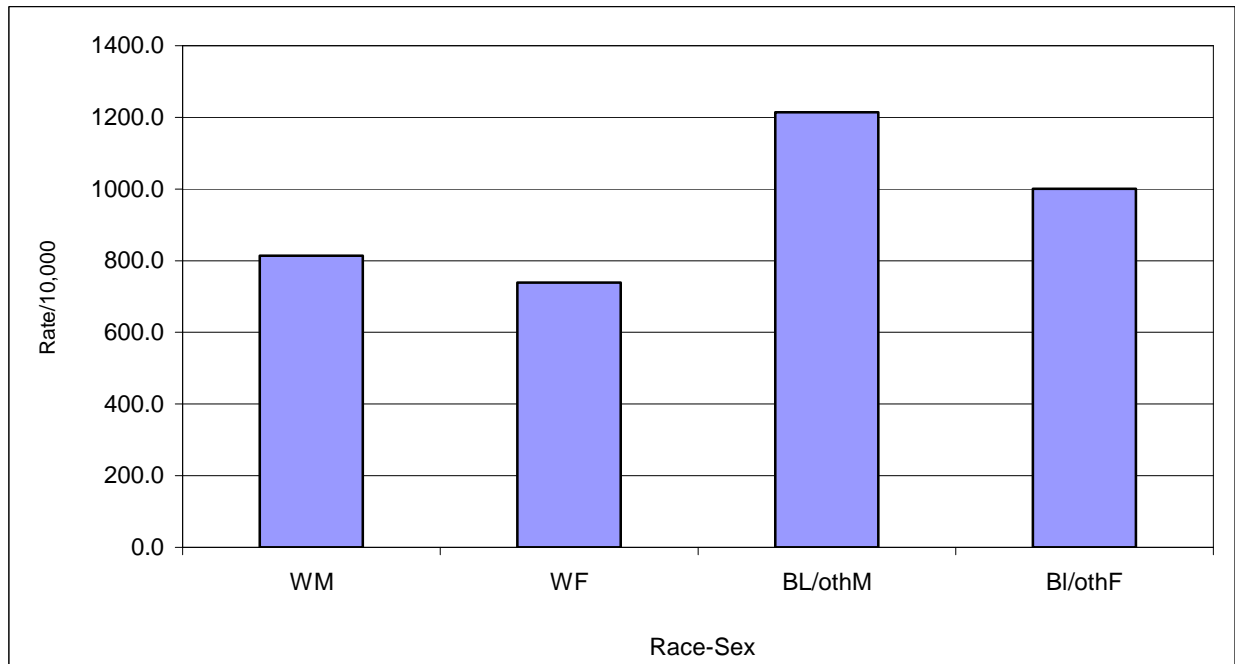


Table 3.3: Top 5 Causes of Injury ED Visits by Race & Sex, SC 2007

Race & Sex	Cause of Injury	No.	Rate	Race & Sex	Cause of Injury	No.	Rate
White Males	Falls	26,513	176.1	Black/ other Males	MVC	12,607	196.4
	Natural, Environmental	17,659	117.3		Falls	11,906	185.5
	Struck By/ Caught In	15,797	104.9		Natural, Environmental	11,564	180.2
	Piercing/Cutting	12,012	79.8		Struck By/ Caught In	8,975	139.8
	Overexertion	11,598	77.0		Overexertion	7,151	111.4
White Females	Falls	37,380	242.4	Black/ other Females	MVC	16,569	230.5
	Natural, Environmental	17,227	111.7		Falls	14,211	197.7
	MVC	13,674	88.7		Natural, Environmental	12,383	172.3
	Overexertion	11,576	75.1		Overexertion	6,974	97.0
	Struck By/ Caught In	11,112	72.1		Struck By/ Caught In	6,307	87.8

Rate per 10,000 population

Figure 3.3: MVC-Related ED Visits by Race, Sex & Age Group, SC 2007

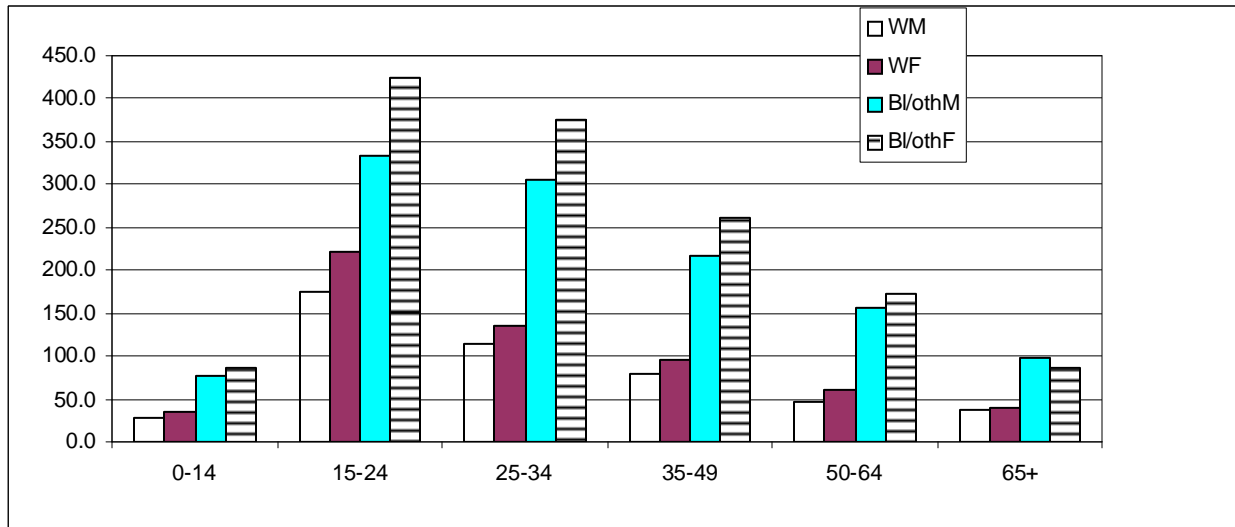


Table 3.3: Falls-Related ED Visits by Race-Sex, SC 2007

Sex-Race	Number	Rate
White M	26,513	176.1
White F	37,380	242.4
Black/other M	11,906	185.5
Black/other F	14,211	197.7

Rate per 10,000 population

Table 3.5: Nature of Injuries Due to Falls, SC 2007

Nature of Injuries Resulted from Falls	Percent
Contusions with intact skin surfaces	29.3
Fractures	23.7
Sprains & Strains	19.1
Open wounds	15.2
Other injuries	8.5
Superficial injuries	2.6
Intracranial injury, exclude those with skull fracture	1.5

Percent of all falls

Table 3.6: Source of Payments & Charges, ED Visits, SC 2007

Paying Source	Percent
Insurance	44.4
Self Pay	25.4
Medicare	16.9
Medicaid	13.3
Total Charges to all payers: \$ 621,667,954	

Charges are the amount billed to paying sources and not the amount collected

2007 Traumatic Brain Injury Deaths

(All rates in Section IV of this report are based on 100,000 population)

- In 2007, there were 1,117 deaths in South Carolina due to Traumatic Brain Injury (TBI). The crude death rate was 25.3 per 100,000 population.
- Motor vehicle crashes (MVC) were the leading cause of TBI deaths (32.5%) followed by suicide and homicide (22.9, and 13.1% respectively) (Table 4.1).
- Around forty percent of TBI were Intra-cranial (IC) injuries, 3.0% were skull/facial bone fractures, 16.1% were open wound of head, and 40.4% were unspecified head injury (Figure 4.1).
- People 65 years and older had the highest TBI death rate followed by age group 15-24 (39.8, and 35.6/100,000 respectively) (Figure 4.2). After the age of 24 years, TBI death decreased till it increased again for people 65 and older. Table 4.2 shows that the primary cause of TBI death was: MVC for people 0-49 years old, suicide for age group 50-64, and falls for people 65 years and older.
- White males had the highest TBI death rate followed by black/other males (40.7 and 31.9/100,000 respectively) (Figure 4.3). TBI deaths among white males are nearly triple that of white females, and black/other males die from TBI 3.5 times as much as black/other females. MVC were the primary cause of death for white females and black/other males (Table 4.3). Suicide was the leading cause of TBI death for white males while homicide was that for black/other females.
- Figure 4.4 shows that deaths from MVC were the highest among 15-24 years old males white and black/other (31.1 and 22.7/100,000 respectively). Regarding females, the peak of MVC-related TBI death was in age group 15-24, and for black/other was in age group 65+.
- Homicide among black/other was more than whites and it was the reverse for suicide (Figure 4.5). Firearms were used in 67.8% of homicide-related TBI deaths as the weapon of assault, and firearms were used in 98.4% of the suicide cases.

Table 4.1: Causes of TBI Deaths, SC 2007

Cause of Injury	Number	Percent	Rate
I. Unintentional	701	62.8	15.9
MVC	363	32.5	8.2
Fall	131	11.7	3.0
Motor Cyclists	58	5.2	1.3
Pedestrians	58	5.2	1.3
Unspecified	33	3.0	0.7
Other Transport	21	1.9	0.5
Pedal Cyclists	11	1.0	0.2
Firearm	6	0.5	0.1
Other Causes	4	0.4	0.1
Poisoning	4	0.4	0.1
Struck by/caught in	4	0.4	0.1
Drowning	3	0.3	0.1
Machinery	3	0.3	0.1
Natural/Environmental	1	0.1	0.0
Suffocation	1	0.1	0.0
II. All Intentional	403	36.1	9.1
Suicide	256	22.9	5.8
Homicide	146	13.1	3.3
Legal Intervention/Operation of War	1	0.1	0.0
III. Undetermined Intent	13	1.1	0.3
Total	1,117	100.0	25.3

Percent of the total TBI Deaths
Rate per 100,000 population

Figure 4.1: Types of TBI Deaths, SC 2007

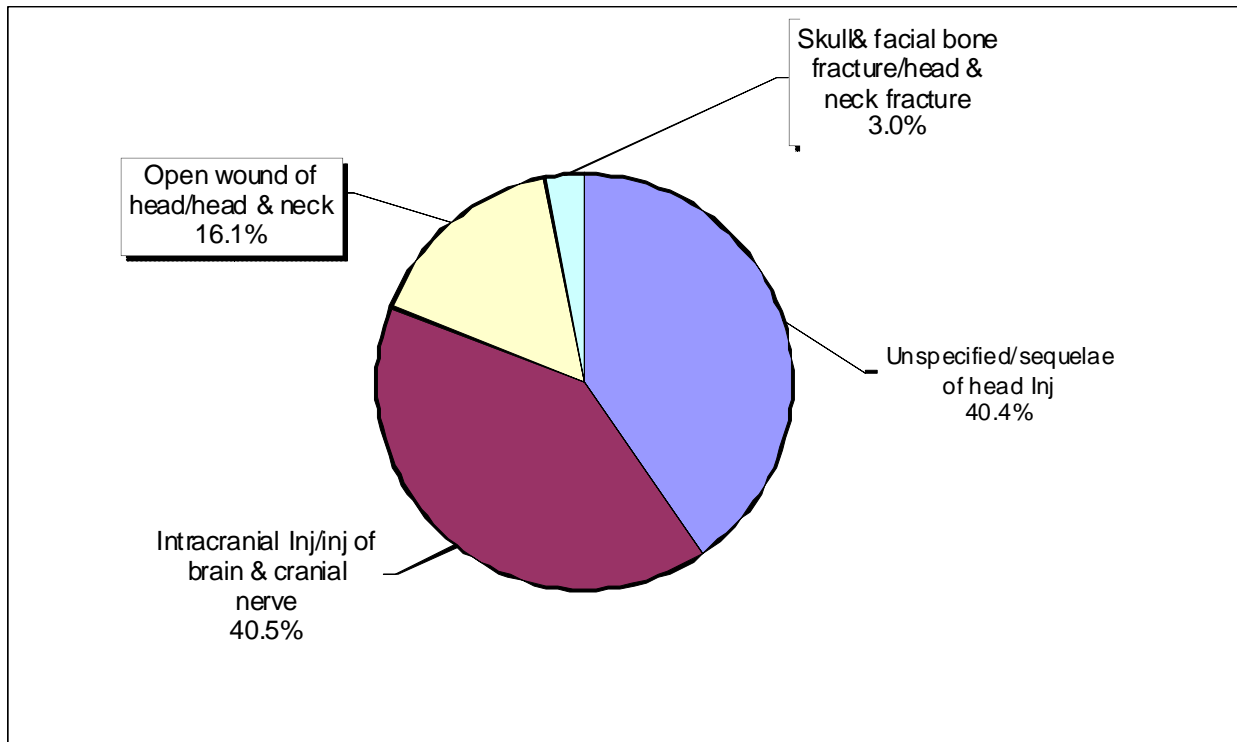


Figure 4.2: TBI Death Rates by Age Groups, SC 2007

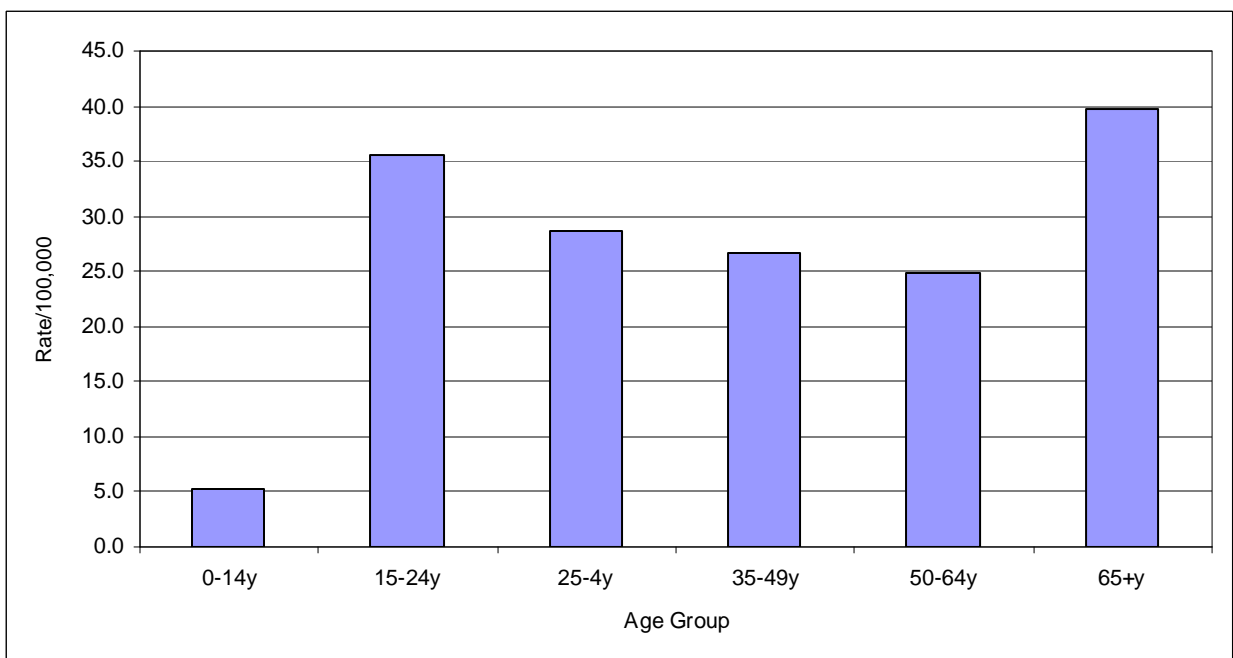


Table 4.2: Top 3 Causes of TBI Deaths by Age Group, SC 2007

Age Group	Cause of Injury	No.	Rate	Age Group	Cause of Injury	No.	Rate
0-14	MVC	17	2.0	35-49	MVC	78	8.3
	Homicide	11	1.3		Suicide	74	7.9
	Pedestrians	9	1.0		Homicide	24	2.6
15-24	MVC	114	18.4	50-64	Suicide	68	8.2
	Homicide	37	6.0		MVC	48	5.8
	Suicide	26	4.2		Homicide	25	3.0
24-34	MVC	69	12.0	65+	Fall	93	16.2
	Homicide	37	6.5		Suicide	54	9.4
	Suicide	32	5.6		MVC	37	6.5

Rate per 100,000 population

Figure 4.3: TBI Death by Race and Sex, SC 2007

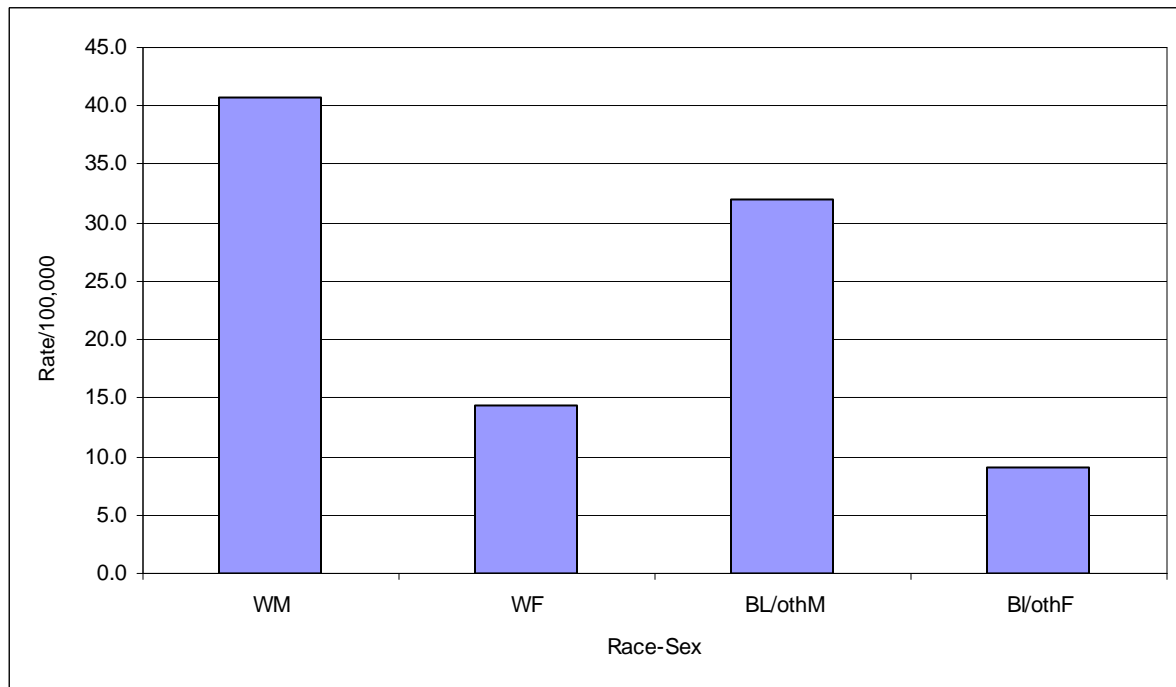


Table 4.3: Top 5 Causes of TBI Deaths by Race & Sex, SC 2007

Race & Sex	Cause of Injury	No.	Rate	Race & Sex	Cause of Injury	No.	Rate
White Males	Suicide	194	12.9	Black/ other Males	MVC	77	12.0
	MVC	186	12.4		Homicide	57	8.9
	Fall	60	4.0		Suicide	19	3.0
	Homicide	44	2.9		Fall	12	1.9
	Motor Cyclists	39	2.6		Pedestrians	12	1.9
White Females	MVC	75	4.9	Black/ other Females	Homicide	21	2.9
	Fall	51	3.3		MVC	19	2.6
	Suicide	38	2.5		Pedestrians	9	1.3
	Homicide	23	1.5		Fall	7	1.0
	Motor Cyclists	7	0.5		Suicide	5	0.7

Rate per 100,000 population

Figure 4.4: TBI Deaths Due to MVC by Race, Sex & Age Group, SC 2007

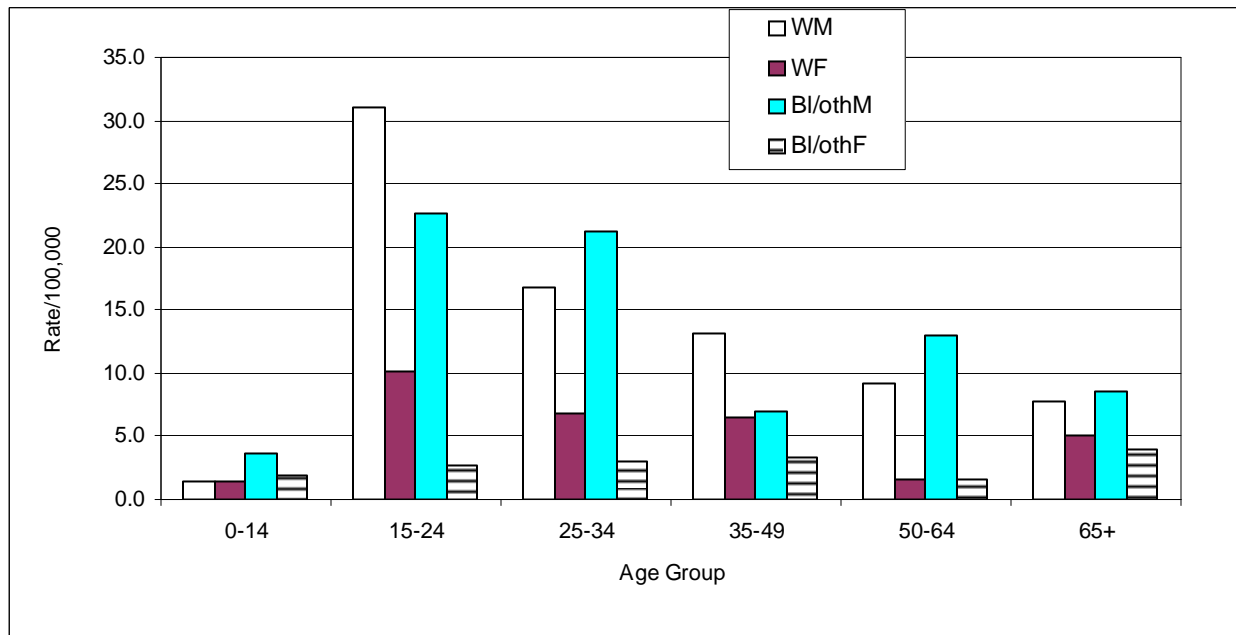
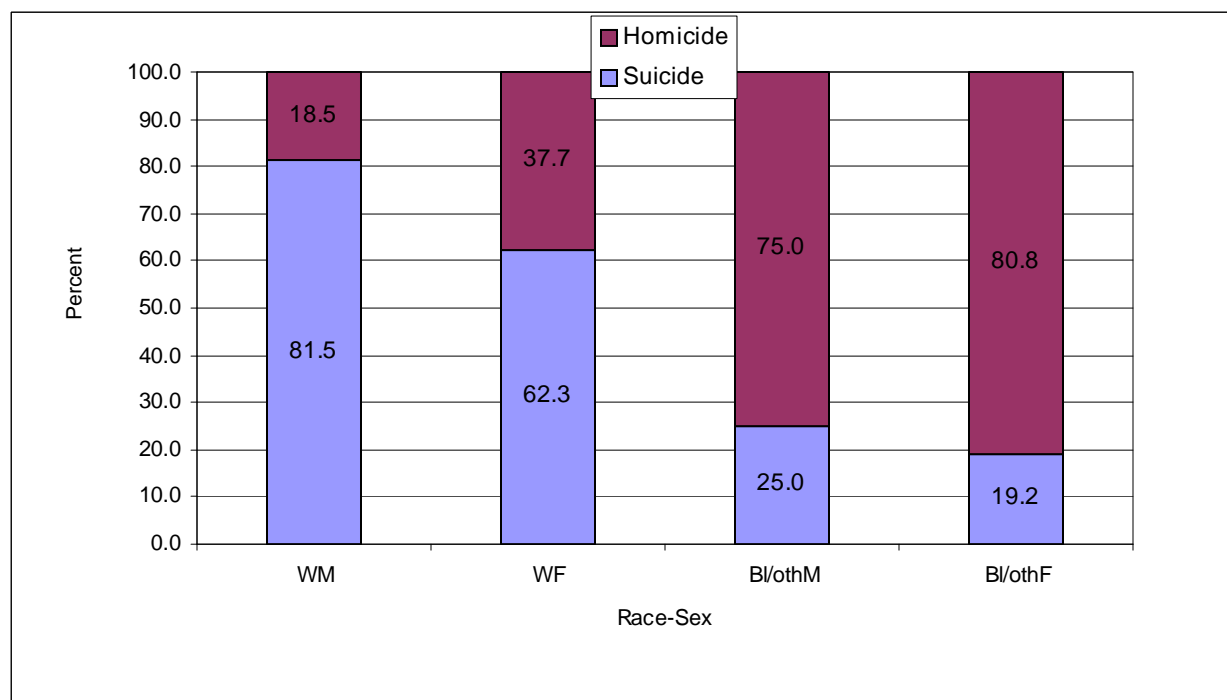


Figure 4.5: TBI Deaths due to Intentional Injuries by Race and Sex, SC 2007



2007 Traumatic Brain Injury Emergency Department (ED) Visits

(All rates in Section V of this report are based on 100,000 population)

- There were 15,992 TBI emergency department (ED) visits in SC in year 2007, resulting in a crude rate of 362.8 visits /100,000 population.
- Falls were the leading cause of TBI ED visits (35.3%) followed by MVC (21.6%), (Table 5.1). Intentional injuries accounted for 10.8% of the causes of injury (mostly due to assault).
- Sixty percent of the TBI-related ED visits were diagnosed as unspecified head injuries, 33.7% were concussions, 2.2% were intracranial (IC) injury, and 3.5% were skull fracture with or without Intra-cranial (IC) Injury (Figure 5.1).
- The majority of the TBI were classified as mild injuries (93.2%), while 5.5% of the visits were classified as moderate and severe (Figure 5.2). People 65 years and older had the highest percentage of moderate and severe TBI (9.5%), followed by people ages 50-64 years old (7.2%), (Figure 5.3).
- Young people 15-24 years old had the most visits to the ED due to TBI followed by children 14 years and younger (577.3 and 413.0/100,000 consecutively) (Figure 5.4). ED visits declined after age 24 until it increased again for people 65 years and older. Falls were the leading cause of TBI-related injury for age group 0-14 and people 50 years and older (Table 4.4); MVC were the leading cause of injury from age 15 to age 49.
- TBI ED visits among black/other males were 1.3 times that among white males (Figure 5.5), and for white females it was slightly higher than that for black/others females. Table 5.5 shows that the top 5 causes of TBI injury were the same among all race-sex groups, with falls being the leading cause, and occurred more frequent among white females than any other group.
- MVC-related TBI /ED visits were the highest among people in the age range of 15-24 years (Figure 5.6), and in that age group the highest rate was for black/other males (225.8/100,000).
- Figure 5.9 shows a U shaped like graph, which indicates that falls occurred the most in the early years of life (0-14 years) and in people 65 years and older. In age group 0-14, males (white & black/other) had more falls-related TBI than females (white & black/other). For people 65 and older, white males and females had more falls than black/other males and females.

- **Through review of 2,099 TBI/ED medical case records detailed case information that is not available through ICD-9 coding was collected and the following findings were made:**
 - ❖ MVC and protective equipment used (seatbelt, child seat, air bag, helmet): Figure 5.7 shows that protective equipment was used in 47.9% of MVC-related TBI ED visits. Figure 5.8 shows that use of protective equipment was the highest among people 65 and older, and the lowest use was among age group 25-34.
 - ❖ Types of falls: Almost 40% of the falls resulting in TBI were unspecified in nature (Figure 5.10), 24.8% were falls on the same level, 23.1% were from one level to another, and 6.6% were falls from stairs or steps.
 - ❖ Injury in sports/recreation: Football (20.3%), Basketball (12.0%), Running-Leisure (10.5%), Skateboard (9.0%), and Soccer (6.8%) were the leading activities indicated in sports-related TBI ED visits. Table 5.6 shows the different types of these activities.
 - ❖ Relationship of alcohol use and TBI: Alcohol use is unknown in 87.3% (Table 5.7) of reviewed cases. Blood alcohol level (BAL) was tested in 5.2% of cases; out of these, BAL measured 100 mg/dl or higher in 3.1% and less than 100mg/dl in 2.1%. Clinical or other evidence of alcohol use is indicated in 6.6% of the ED visits, and in 0.9% evidence indicated no alcohol consumption.

Table 5.1: Causes of TBI ED Visits, SC 2007

Cause of Injury	Number	Percent	Rate
I. Unintentional	14,002	87.6	317.7
Fall	5,642	35.3	128.0
MVC	3,449	21.6	78.2
Struck by/caught in	1,874	11.7	42.5
Sports/Recreation	1,231	7.7	27.9
Unknown	617	3.9	14.0
Unspecified	549	3.4	12.5
Motor Cyclists	237	1.5	5.4
Other transport	141	0.9	3.2
Pedestrians	98	0.6	2.2
Cut/Pierce	48	0.3	1.1
Natural/environmental	26	0.2	0.6
Pedal cyclists	26	0.2	0.6
Overexertion	22	0.1	0.5
Machinery	21	0.1	0.5
Others	12	0.1	0.3
Poisoning	9	0.1	0.2
II. All Intentional	1,944	10.8	44.1
Assault	1,932	10.8	43.8
Attempted Suicide	12	0.1	0.3
III. Undetermined Intent	46	0.2	1.0
Total	15,992	100.0	362.8

Percent of the total ED visits
Rate per 100,000 population

Figure 5.1: Types of TBI in ED Visits, SC 2007

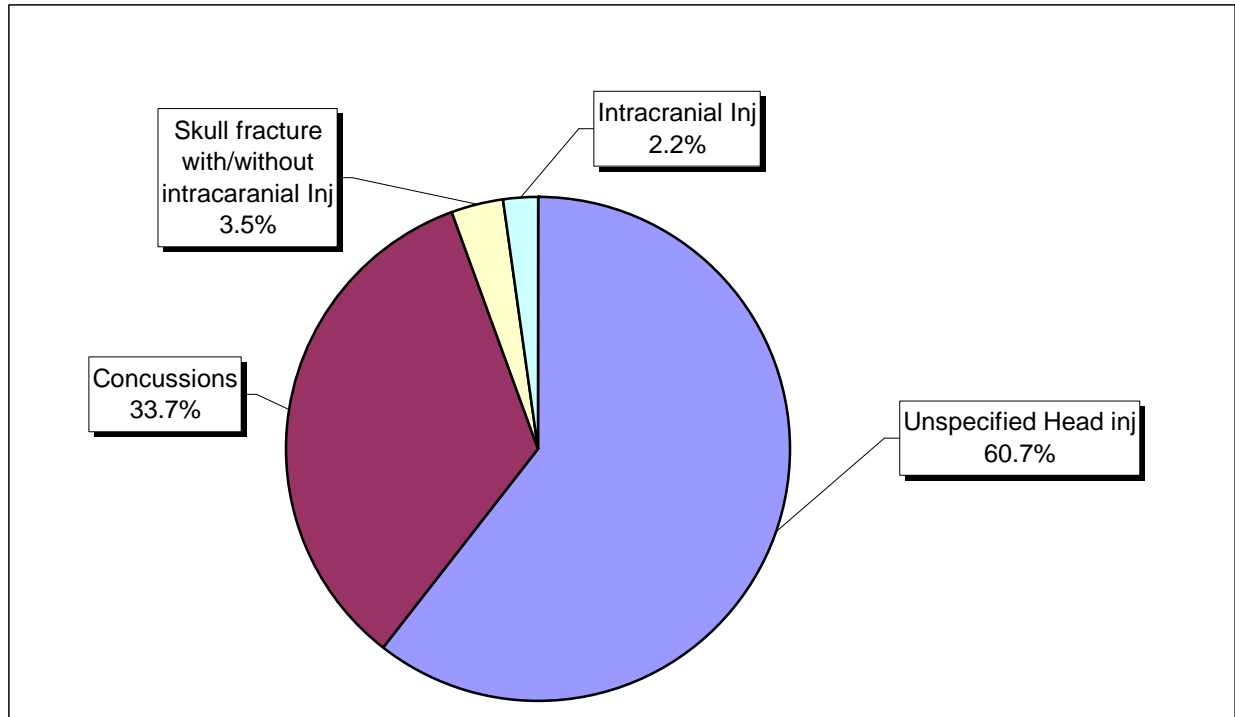


Figure 5.2: TBI ED Visits by Severity, SC 2007

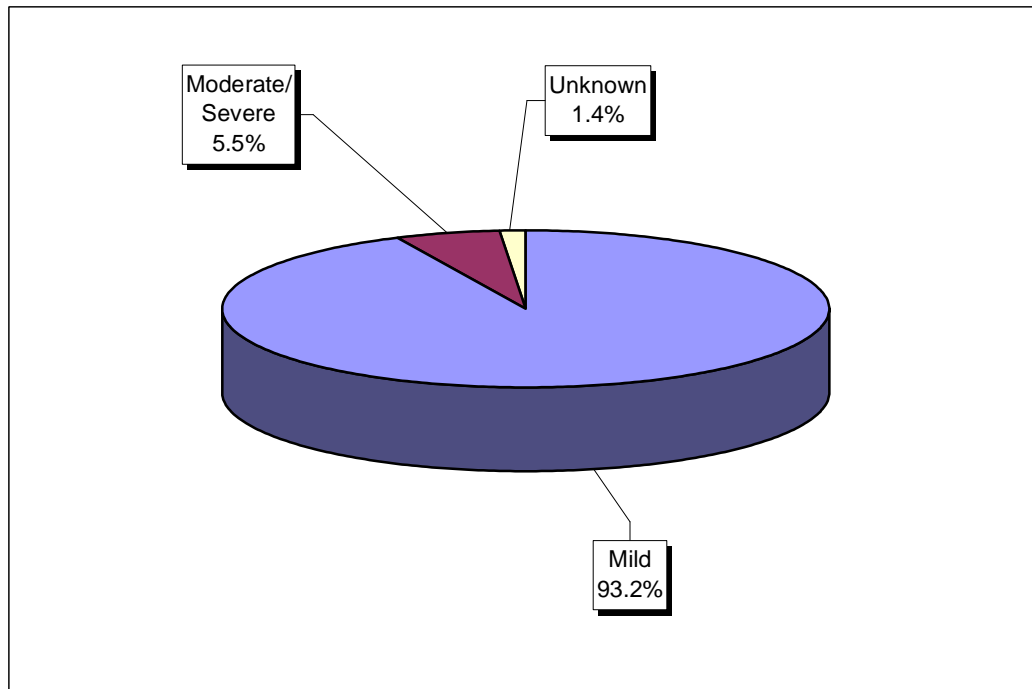


Figure 5.3: TBI/ED Severity by Age Group, SC 2007

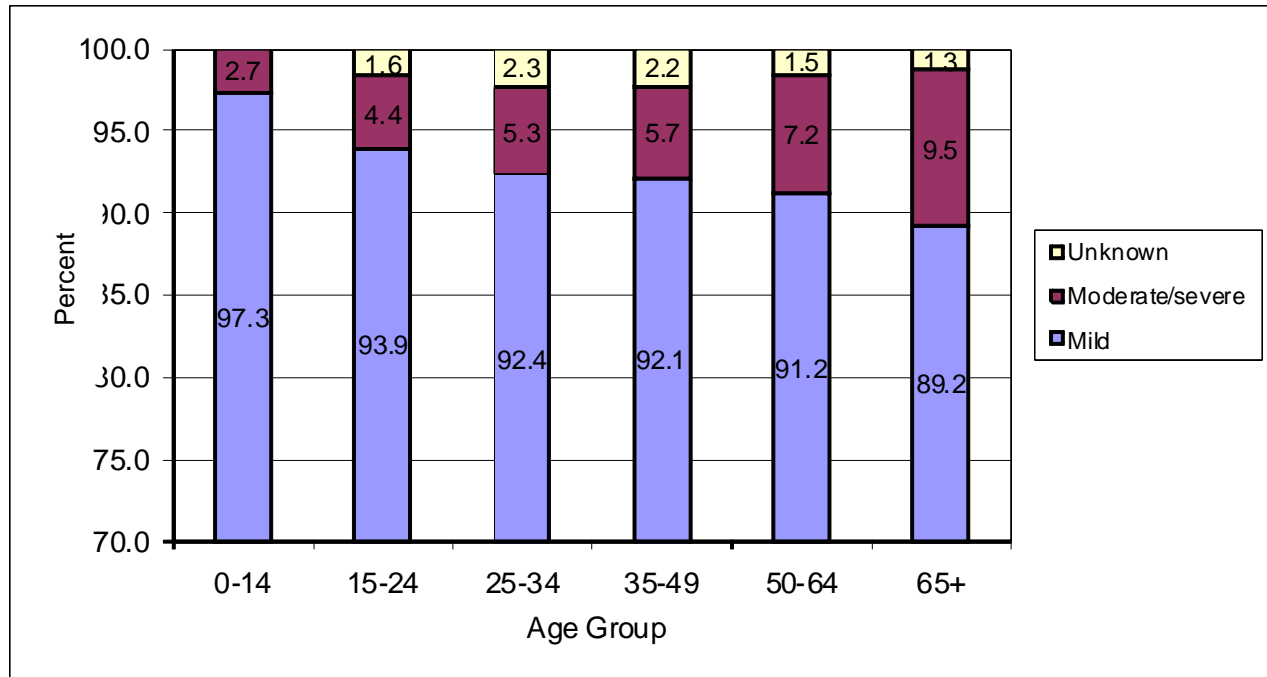


Figure 5.4: TBI ED Visits Rates by Age Group, SC 2007

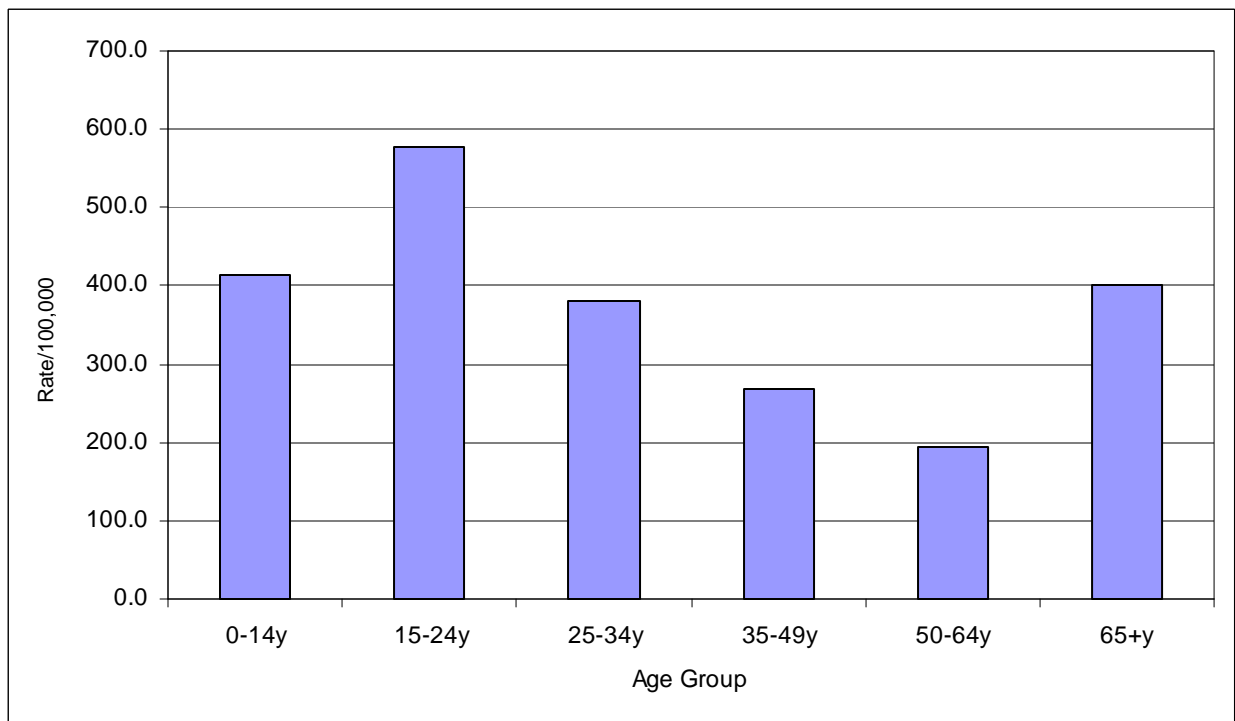


Table 5.4: Top 5 Causes of TBI ED Visits by Age Group, SC 2007

Age Group	Cause of Injury	No.	Rate	Age Group	Cause of Injury	No.	Rate
0-14	Fall	1,366	160.6	35-49	MVC	531	56.9
	Struck By/ Caught In	546	64.2		Fall	470	50.4
	Sports/Recreation	335	39.4		Assault	448	48.0
	MVC	210	24.7		Struck By/ Caught In	244	26.2
	Assault	65	7.6		Sports/Recreation	83	8.9
15-24	MVC	577	94.3	50-64	Fall	500	62.2
	Sports/Recreation	259	42.3		MVC	301	37.5
	Assault	217	35.5		Assault	149	18.5
	Fall	209	34.2		Struck By/ Caught In	119	14.8
	Struck By/ Caught In	176	28.8		Sports/Recreation	46	5.7
24-34	MVC	1,068	187.9	65+	Fall	1291	233.3
	Assault	646	113.6		MVC	170	30.7
	Fall	425	74.8		Struck By/ Caught In	79	14.3
	Struck By/ Caught In	308	54.2		Assault	15	2.7
	Sports/Recreation	129	22.7		Sports/Recreation	8	1.4

Rate per 100,000 population

Figure 5.5: TBI ED Visits by Race and Sex, SC 2007

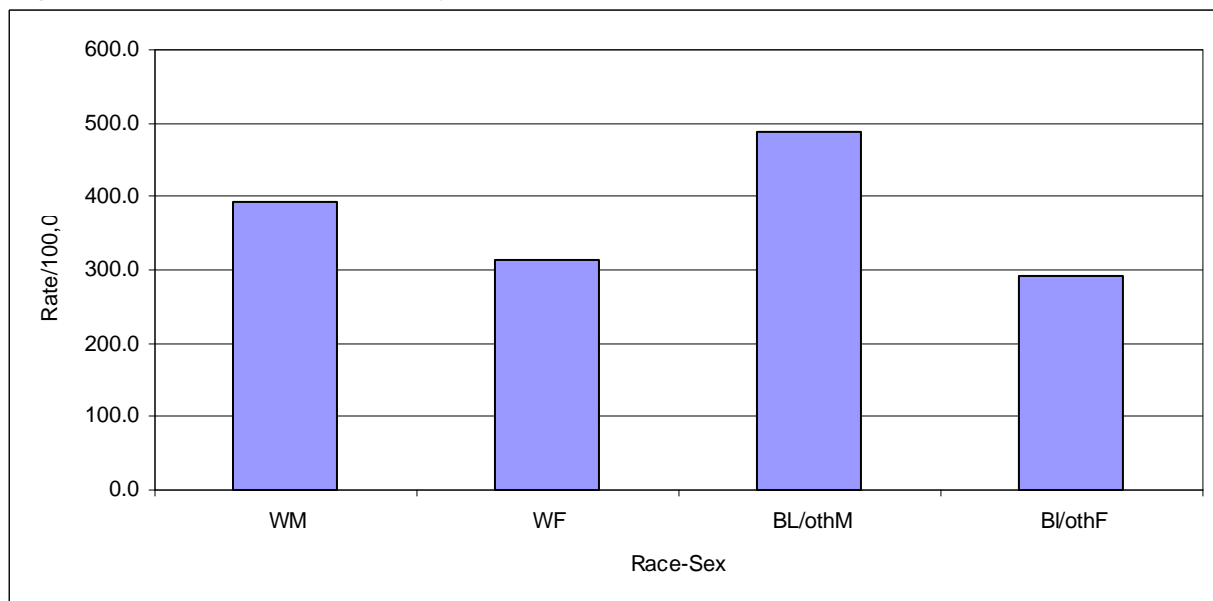


Table 5.5: Top 5 Causes of TBI ED Visits by Race & Sex, SC 2007

Race & Sex	Cause of Injury	No.	Rate	Race & Sex	Cause of Injury	No.	Rate
White Males	Fall	1,897	126.0	Black/ other Males	Fall	754	117.5
	MVC	1,152	76.5		MVC	717	111.7
	Struck By/ Caught In	762	50.6		Assault	569	88.7
	Assault	755	50.2		Struck By/ Caught In	408	63.6
	Sports/Recreation	605	40.2		Sports/Recreation	246	38.3
White Females	Fall	2,289	148.5	Black/ other Females	Fall	700	97.4
	MVC	947	61.4		MVC	630	87.7
	Struck By/ Caught In	459	29.8		Struck By/ Caught In	243	33.8
	Assault	374	24.3		Assault	233	32.4
	Sports/Recreation	318	20.6		Sports/Recreation	60	8.3

Rate per 100,000 population

Figure 5.6: TBI ED Visits Due to MVC by Race, Sex and Age Group, SC 2007

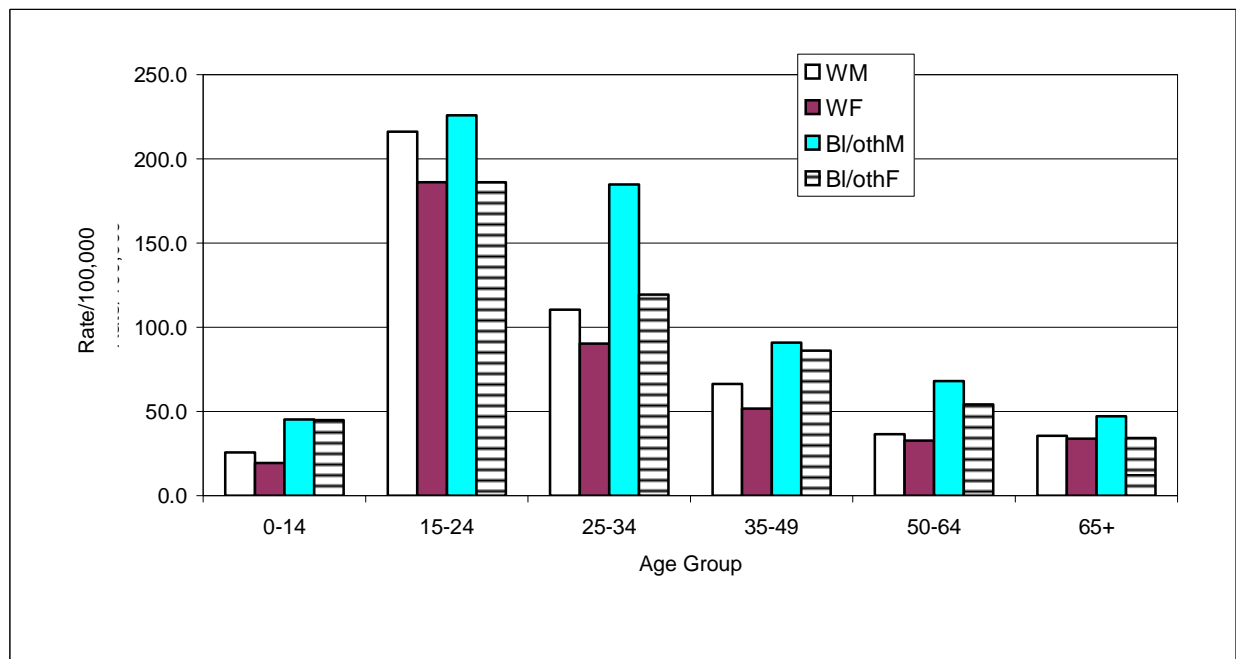


Figure 5.7 Protective Equipment Use in MVC-Related TBI ED visits, SC 2007

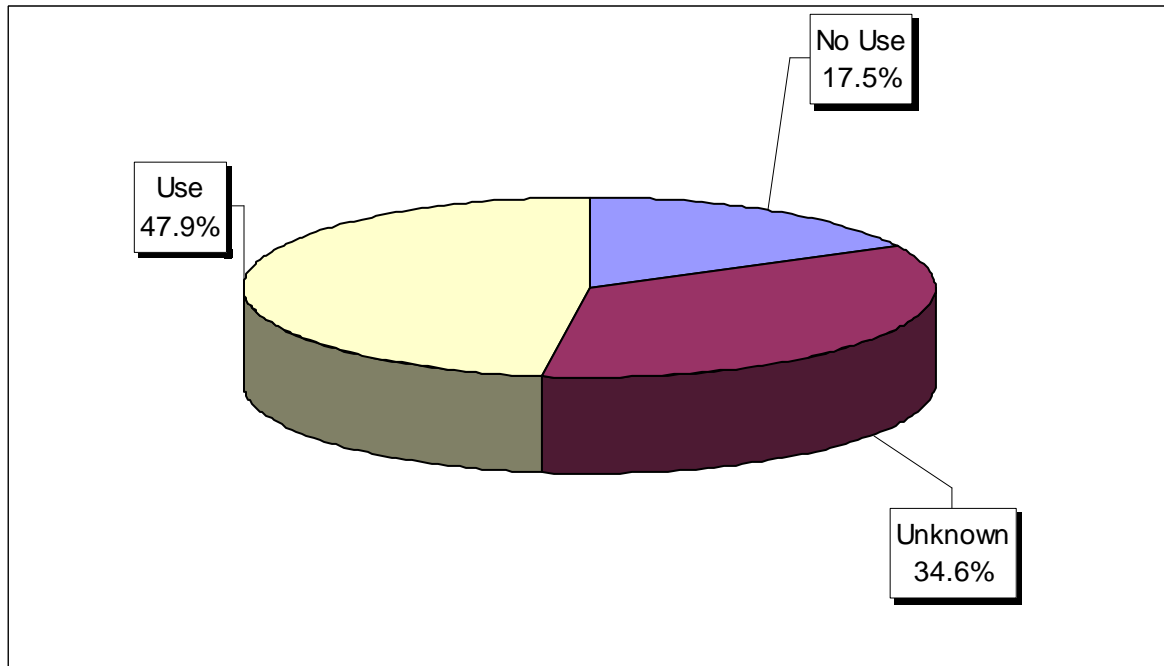


Figure 5.8: Protective Equipment Use in MVC TBI ED Visits by Age group, SC 2007

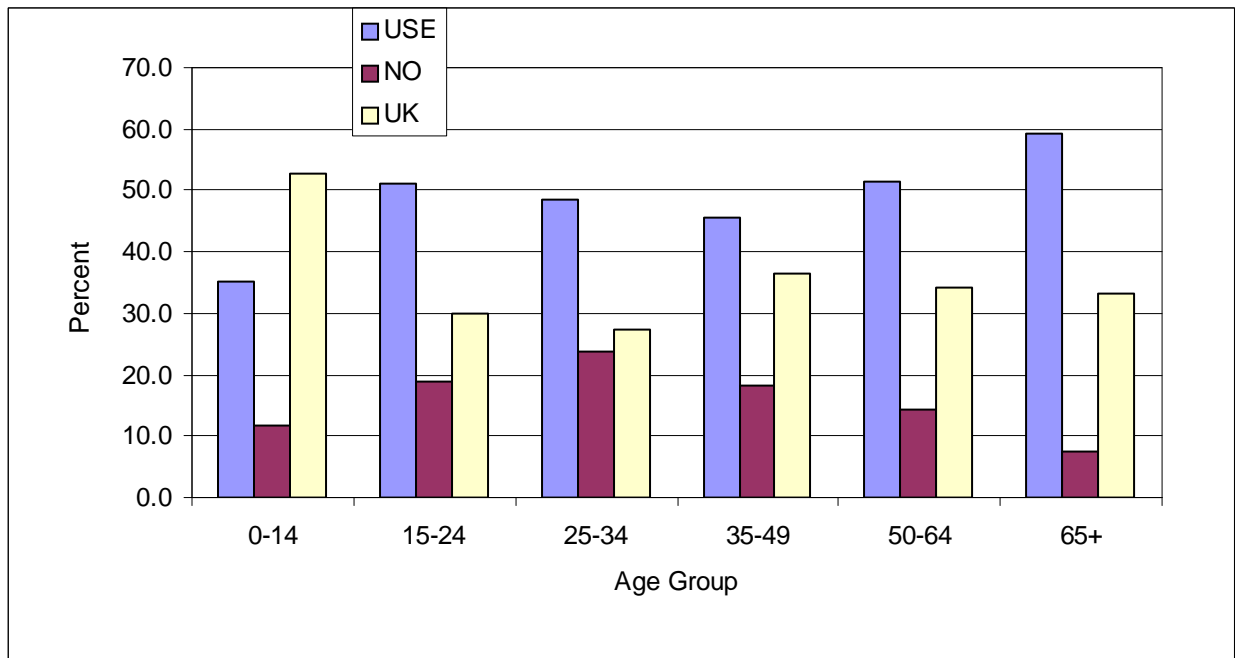


Figure 5.9: TBI ED Visits Due to Falls by Race, Sex & Age Group, SC 2007

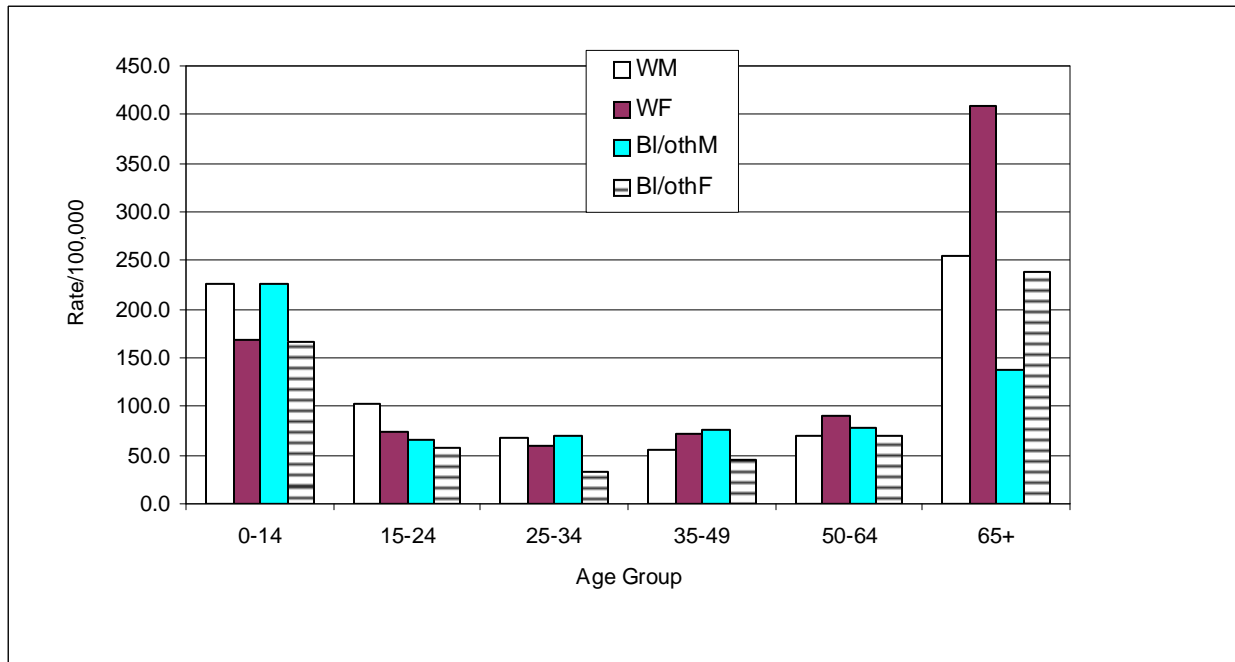


Figure 5.10: Types of Falls, TBI ED Visits, SC 2007

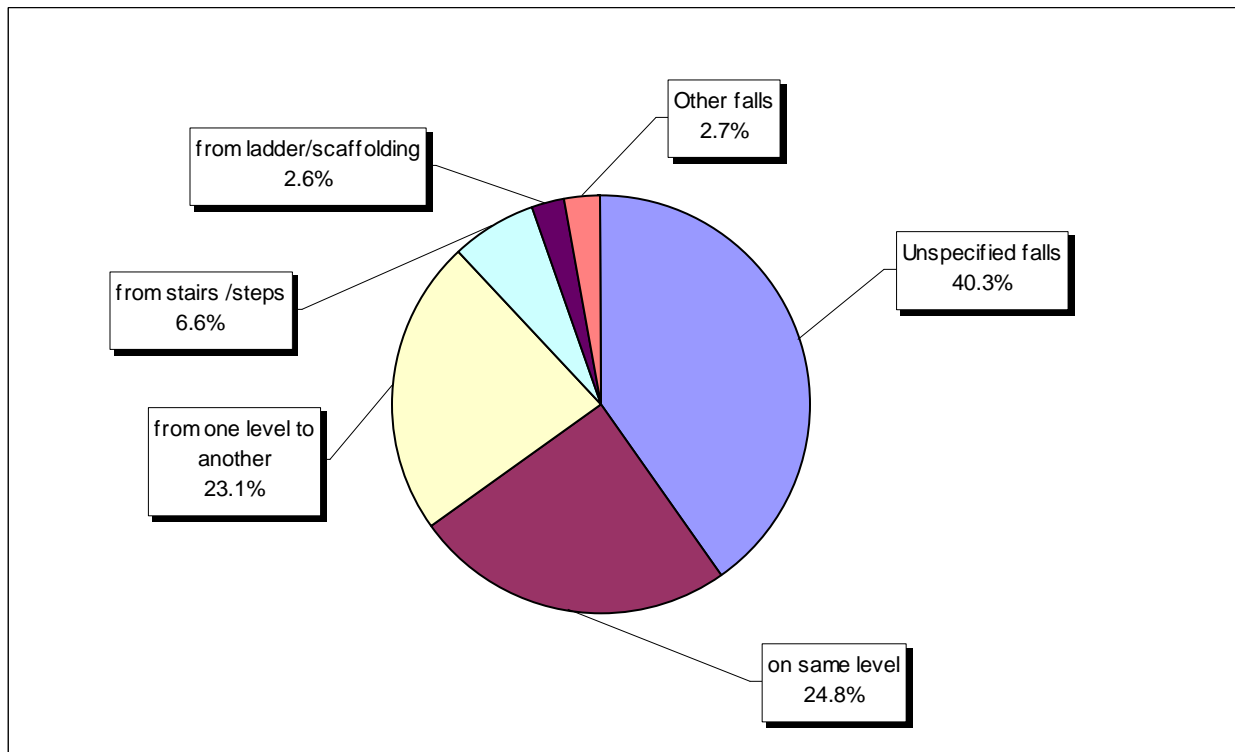


Table 5.6: Sports-Related TBI ED Visits, SC 2007 (N=133)

Sport	%	Sport	%
Football	20.3	Equestrian	3.8
Basketball	12.0	Wrestling	3.8
Running-Leisure	10.5	Playground-equip	3.0
Skateboard	9.0	Skating-Roller	3.0
Soccer	6.8	Ski-Water	3.0
Baseball	5.3	Swimming	2.3
Cycling	5.3	Other	6.8
Softball	5.3		

Percent of all Sports-related TBI/ED

Table 5.7: Alcohol Use, TBI ED Visits SC 2007 (N=2,099)

Alcohol Use	Percent
Unknown	87.3
Clinical/other Evidence No Use	0.9
Clinical/other Evidence Use	6.6
BAL >100md/dl	3.1
BAL<100md/dl	2.1



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